The claims

1. A wireless base station operatively connected to a wireless network control device, another wireless base station and a subscriber unit, comprising:

a first communication device for receiving downlink data frames from the wireless network control device and transmitting uplink data frames to the wireless network control device;

a second communication device for transmitting downlink wireless signals to the subscriber unit and receiving uplink wireless signals from the subscriber unit;

a channel processing device for processing the downlink data frames into the downlink wireless signals and processing the uplink wireless signals into the uplink data frames; and

a signal distribution unit for supplying the downlink data frames and the uplink wireless signals to the channel processing device for processing,

characterized in that,

the wireless base station further comprising a third communication device for communicating with the another wireless base station, and the signal distribution unit further comprising:

forwarding control means for transmitting the downlink data frames or uplink wireless signals to the another wireless base station and receiving corresponding downlink wireless signals or uplink data frames from the another wireless base station, through the third communication device.

2. The wireless base station of claim 1, characterized

in that the forwarding control means is further configured to transmit frame timing information relating to the uplink wireless signals or downlink data frames transmitted to said another wireless base station to said another wireless base station.

3. The wireless base station of claim 2, characterized in that said frame timing information is the wireless base station local frame timing and the cell system frame timing information.

4. The wireless base station of claim 1, characterized in that the forwarding control means is further configured to advance the corresponding transmission by a time amount greater than or equal to the round trip transmission delay between said wireless base station and said another wireless base station, relative to the frame timing relating to the uplink wireless signals or downlink data frames transmitted to said another wireless base station.

5. The wireless base station of claim 1, characterized in that the forwarding control means is further configured to transmit the uplink wireless signals and downlink data frames to said another wireless base station, and receive corresponding downlink wireless signals and uplink data frames from said another wireless base station.

6. The wireless base station of claim 5, characterized in that said forwarded uplink wireless signals and said forwarded downlink data frames belong to the same physic channel.

7. The wireless base station of claim 1, characterized in that said forwarding control means is further configured

to exchange control signaling with said another base station.

8. The wireless base station of claim 7, characterized in that said control signaling cpmprises channel processing resource query, allocation control, establishment, modification and release operating commands.

9. The wireless base station of claim 1, characterized in that said another base station is configurable, and said forwarding control means is further configured to perform transmission and reception to and from the configured another base station.

10. The wireless base station of claim 9, wherein said another wireless base station's configuration is decided by said wireless network control device, or said wireless base station, or said another wireless base station, or a third party wireless base station, or through the negotiation between wireless base stations.

11. A wireless base station system including a first base station, a second base station and a wireless network control device, said first base station comprising:

a first communication device for receiving downlink data frames from the wireless network control device and transmitting uplink data frames to the wireless network control device;

a second communication device for transmitting downlink wireless signals to the subscriber unit and receiving uplink wireless signals from the subscriber unit;

a channel processing device for processing the downlink data frames into the downlink wireless signals and processing the uplink wireless signals into the uplink data frames; and

a signal distribution unit for supplying the downlink data frames and the uplink wireless signals to the channel processing device for processing,

characterized in that,

the first base station further comprising a third communication device for communicating with the second base station, and the signal distribution unit further comprising:

forwarding control means for transmitting the downlink data frames or uplink wireless signals to the second base station and receiving corresponding downlink wireless signals or uplink data frames from the second base station, through the third communication device.

12. The base station system of claim 11, characterized in that the forwarding control means is further configured to transmit frame timing information relating to the uplink wireless signals or downlink data frames transmitted to said second base station to said second base station.

13. The base station system of claim 12, characterized in that said frame timing information is the wireless base station local frame timing and the cell system frame timing information.

14. The base station system of claim 11, characterized in that the forwarding control means is further configured to advance the corresponding transmission by a time amount greater than or equal to the round trip transmission delay between said first base station and said second base station, relative to the frame timing relating to the uplink wireless signals or downlink data frames transmitted to said second base station.

15. The base station system of claim 11, characterized in that the forwarding control means is further configured to transmit the uplink wireless signals and downlink data frames to said second base station, and receive corresponding downlink wireless signals and uplink data frames from said second base station.

16. The base station system of claim 15, characterized in that said forwarded uplink wireless signals and said forwarded downlink data frames belong to the same physic channel.

17. The base station system of claim 11, characterized in that said forwarding control means is further configured to exchange control signaling with said second base station.

18. The base station system of claim 17, characterized in that said control signaling comprises channel processing resource query, allocation control, establishment, modification and release operating commands.

19. The base station system of claim 11, characterized in that said second base station is configurable, and said forwarding control means is further configured to perform transmission and reception to and from the configured second base station.

20. The base station system of claim 19, wherein said second base station's configuration is decided by said wireless network control device, or said first base station, or said second wireless base station, or another base station, or through the negotiation between base stations.

21. A communication method in a wireless base station which is operatively connected to a wireless network control

device, another wireless base station and a subscriber unit, the wireless base station comprising a first communication device, a second communication device, a channel processing device and a signal distribution unit, the method comprising steps:

receiving downlink data frames from the wireless network control device through the first communication device;

transmitting uplink data frames to the wireless network control device through the first communication device;

transmitting downlink wireless signals to the subscriber unit through the second communication device;

receiving uplink wireless signals from the subscriber unit through the second communication device;

supplying through the signal distribution unit the downlink data frames and the uplink wireless signals to the channel processing device for processing; and

processing the downlink data frames into the downlink wireless signals and processing the uplink wireless signals into the uplink data frames in the channel processing device,

wherein the wireless base station further comprising a third communication device for communicating with the another wireless base station, and the method is characterized in that the providing step further comprising:

transmitting the downlink data frames or the uplink wireless signal to the another wireless base station through the third communication device; and

receiving corresponding downlink wireless signals or uplink data frames from the another wireless base station through the third communication device.

22. A communication method in a wireless base station system, the wireless base station system comprising a first base station, a second base station and a wireless network control device, the first base station comprising a first communication device, a second communication device, a channel processing device and a signal distribution unit, wherein in the first base station:

receiving downlink data frames from the wireless network control device through the first communication device;

transmitting uplink data frames to the wireless network control device through the first communication device;

transmitting downlink wireless signals to the subscriber unit through the second communication device;

receiving uplink wireless signals from the subscriber unit through the second communication device;

supplying through the signal distribution unit the downlink data frames and the uplink wireless signals to the channel processing device for processing; and

processing the downlink data frames into the downlink wireless signals and processing the uplink wireless signals into the uplink data frames in the channel processing device,

wherein the first base station further comprising a third communication device for communicating with the second base station, and the method is characterized in that the providing step further comprising:

in the first base station, transmitting the downlink data frames or the uplink wireless signals to the second wireless base station through the third communication device; and

in the first base station, receiving corresponding

downlink wireless signals or uplink data frames from the second base station through the third communication device.